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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/549,964

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Haruhisa Toyoda

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DARBY & DARBY P.C.

P.O. BOX 770

Church Street Station

New York, NY 10008-0770

EXAMINER

SHEEHAN, JOHN P

ART UNIT

PAPER NUMBER

1793

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DELIVERY MODE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/549,964	<b>Applicant(s)</b> TOYODA ET AL.	
	<b>Examiner</b> John P. Sheehan	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,8 and 11-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 3-5, 8, 11 and 12 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### **Claim Interpretation**

1. Claims 1, 3 to 5, 8 and 11 to 13 do not recite the particle size of the metal magnetic powder, therefore these claims read on any powder particle size.
2. Claims 1, 3 to 5, 8 and 11 to 13 limit the average crystal grain size to between 10 and 20 microns.
3. Claims 1, 3 to 5, 8, 11 and 13 recite an average crystal size "of at least 30 nm, therefore these claims encompass any crystal size of 30 nm or more. Claims 8 and 12 limit the crystal size to 80 nm and between 60 and 110 nm respectively.
4. In view of paragraphs 1, 2 and 3 above, claims 1, 3 to 5, 11 and 13 encompass any particle size, any crystal size greater than 30 nm but less than the size of the crystal grain and a crystal grain of between 10 and 20 microns.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuya et al. (Tsukada '830, US Patent No. 4,257,8306, cited by the Examiner).

Tsuya '830 teaches a Fe-Al-Si soft magnetic alloy ribbon having a crystal grain size of 1 to 100 microns (column 8, lines 44 to 46) which encompasses the crystal grain size of 10 to 20 microns recited in the instant claims. Tsuya '830 teaches that the alloy ribbon is ground into a powder (column 12, lines 61 and 62). Tsuya '830 does not teach a powder size, however the instant claims are silent with respect to powder size. Tsuya '830 does not teach a crystal size, however the instant claims only require that the crystal size be greater than 30 nm,

Tsuya '830 and the claims differ in that Tsuya '830 is silent with respect to the crystal size.

However one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because as set forth above under the heading, "Claim Interpretation", the claims encompass any particle size, any crystal size greater than 30 nm but less than the size of the crystal grain and a crystal grain of between 10 and 20 microns, thus the instant claims encompass the soft magnetic powder taught by Tsuya '830.

5. Claims 3 to 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuya '830 as applied to claims 1, 8 and 12 above, and further in view of Wakayama et al. (Wakayama '652, US Patent Application Publication, cited by the Examiner).

Tsuya '830 teaches and is applied as set forth above. Tsuya '830 teaches that the Fe-Al-Si alloy is used to make a core including a dust core (column 1, lines 12 to 15 and 30 to 35).

Wakayama '652 teaches making a core as recited in claim 5 using a Fe-Al-Si alloy powder (paragraph [0049]). Wakayama '652 teaches coating the Fe-Al-Si alloy powder with an insulating material as recited in claim 3 wherein the insulating material is an organic insulating material (paragraph [0053]) as recited in claim 4.

The claims and Tsuya '830 and the claims differ in that Tsuya '830 does not teach adding an insulating material to the Fe-Al-Si alloy powder nor the thickness of the insulating material as recited in claims 11.

However one of ordinary skill in the art at the time the invention was made would have considered the invention to have been obvious because coating a Fe-Al-Si alloy powder with an insulating material during the process of forming the Fe-Al-Si powder into a core is conventional as taught by Wakayama '652. Further, the determination of the appropriate amount of insulating material is considered to be within the skill of one of ordinary skill in the art so produce a proper performing Fe-Al-Si core.

#### ***Allowable Subject Matter***

6. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. Applicant's arguments, filed February 18, 2009, with respect to Tsukada '636 have been fully considered and are persuasive. The rejection of the claims based on Tsukada '636 has been withdrawn.

***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Sheehan whose telephone number is (571) 272-1249. The examiner can normally be reached on T-F (7:30-5:00) Second Monday Off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John P. Sheehan/  
Primary Examiner  
Art Unit 1793

JPS